

Acupuncture Soothes Essential Tremor

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Heilongjiang University of Chinese Medicine researchers find two types of acupuncture effective for the treatment of essential tremor. Zone needling of the chorea tremor control area produced a 96.7% total effective rate and conventional acupuncture produced a 73.3% total effective rate. More importantly, a three month follow-up finds relapse rates are relatively low. The zone style scalp acupuncture group relapse rate was 13.81% and the conventional acupuncture relapse rate was 45.5%. The results indicate that the zone style scalp acupuncture group's treatment protocol is more effective than the conventional acupuncture group's protocol.

About Essential Tremor

Essential tremor is a neurological condition causing involuntary trembling with a rhythmic pattern. It is often more noticeable when affecting the hands, which is also the area that is usually affected first. Essential tremor progresses slowly and usually affects the hands, arms, head, larynx, tongue, and chin. Onset is typically gradual. Exacerbations of the condition may be triggered by lack of sleep, anxiety, fatigue, caffeine, and extreme temperatures.

Chinese Medicine

From a Traditional Chinese Medicine (TCM) perspective, the pathogenesis of essential tremor is closely related to environmental and genetic factors. [1–3] According to TCM differential diagnostics, essential

tremor is due to liver qi depression with yang excess expressing as liver wind. The condition also arises from deficiencies of the spleen and kidneys. While the term liver wind is not semantically an allopathic diagnosis, it refers specifically to deficiencies and excesses within the body that result in tremors.

Patients may display other non-motor symptoms, such as memory loss, anxiety and depression. According to TCM theory, this is because essential tremors are due to liver qi stagnation and rising of liver yang (gān yù yáng kàng), transformation of fire and occurrence of qi (huà huǒ shēng fēng), and turbulence in muscle and vessels (rǎo dòng jīn mài). The disease is mainly located in the muscles and vessels, and is closely related to the liver, spleen, and kidneys.

Essential Tremor vs. Parkinson's Disease

Essential tremor is not Parkinson's disease, although the two may be confused due to the presence of tremors. The symptomatic distinction is that essential tremor is more prevalent with activity and Parkinson's disease related tremors worsen at rest. For example, when using the hands, essential tremor is typically more noticeable whereas Parkinson's disease tremors would be more noticeable with the hands resting at the sides of the body. The type of tremor presentation helps to confirm TCM diagnostic considerations along with the presence of accompanying concerns including vertigo, tinnitus, flushing, irritability, or emotional fluctuations. [4] Major areas affected by essential tremor are usually the hands, voice, and head.

Design

The two arm study, administered by Chen Wang and Zuyan Zheng, was conducted at the First Affiliated Hospital of Heilongjiang University of Chinese Medicine from September 2015 to September 2016. [5] Sixty patients were randomly divided into two equal groups, one received zone style scalp acupuncture with body acupoints and the other receiving standard scalp acupuncture and body style acupoints. All sixty participants were outpatients of the hospital.

In the treatment group, there were 14 male cases and female 16 cases; the minimum age was 36 years and the eldest was 72 years. The average was 58 ± 8 years. The patient with the shortest duration of illness was 1 year and the longest was 10 years. The average period was 4.54 ± 2.26 years. In the control group, there were 17 male and 13 female cases; the minimum age was 34 years and the eldest was 70 years. The average was 60 ± 9 years. The shortest duration of illness was 8 months and the longest was 10 years. The average was 4.53 ± 2.05 years.

Exclusion and Inclusion Criteria

Both allopathic and Chinese medicine diagnostic criteria were used to identify patients for the study. Patients met the following primary criteria:

- Postural or kinetic tremors of upper extremities
- Isolated head tremors without any dystonic features
- Absence of other focal findings except mild cogwheeling, especially in elderly patients

Secondary features included the following:

- Long duration (greater than 3 years)
- Family history of essential tremor
- Reactivity to alcohol

TCM diagnostic considerations included the following:

- Pronounced trembling in limbs
- Unable to exercise self-control over tremors
- Dizziness or tinnitus
- Irritability or emotional volatility
- Intensification of symptoms with tension
- Observation of limb numbness, bitter taste in mouth, dry mouth, excess salivation, or dry stool
- Red tongue, yellow tongue coating, or string-taut (wiry) and rapid pulse

Additional considerations included the following:

- Absence of non-motor symptoms
- No other treatments received during the previous 2 weeks
- Able to undergo allopathic medicine and acupuncture treatment
- Stable vital signs, aged 30–75 years, voluntary participation

The following are examples of exclusion criteria, these patients were not admitted to the study:

- Abnormal focal neurological findings, sensory or motor signs (excluding cogwheel rigidity and Froment's sign)
- History of factors that may cause enhanced tremors, such as depression or hyperthyroidism
- Psychogenic tremor history
- Primary orthostatic tremor
- Location-specific tremor
- Isolated tremor of voice, tongue, and jaw
- History of recent trauma before the onset of tremor
- History of recent medications that may lead to tremors or was in the withdrawal phase
- Use of drugs or treatment, which were not prescribed by the doctor during this treatment course

Scalp Acupuncture Treatment

The application of primary acupuncture points was in the anterior and parietal areas of the scalp at Baihui GV20 (Hundred Meetings) and Sishencong MHN1 (Four Alert Spirit). Needles were administered at the following acupoints:

- Anterior Sishencong as well as points 1-inch and 2-inches parallel to both sides of anterior Sishencong
- Points 0.5-inch and 1.5-inch parallel to both sides of Baihui
- Posterior Sishencong and 1-inch parallel to both sides of posterior Sishencong

The aforementioned acupuncture needles were distributed over a wedge-shaped area. In addition, scalp acupuncture was also applied bilaterally to the chorea tremor control area, which is a line located between the vasomotor line and the motor line, 1.5 cm anterior to the motor line. Needles were applied to the middle third portion of the chorea tremor control area.

The needles were 0.35 mm × 40 mm disposable stainless steel filiform needles. The insertion technique was swift to a depth at the epicranial aponeurosis (i.e., galea aponeurotica) level. The twirling technique was applied at 200 per minute, two minutes per needle for scalp points. The reducing technique was

applied to Hegu LI4 and Taichong LV3. Reinforcing-reducing techniques were applied to the remaining acupoints.

At GB20, needles were inserted towards the direction of the nose. The body style acupoints were inserted perpendicularly. Needles were retained for 40 minutes. Additional acupuncture needles were applied to the following body style acupuncture points:

- GB20 (Fengchi)
- MHN9 (Taiyang)
- LI11 (Quchi)
- TB5 (Waiguan)
- LI4 (Hegu)
- GB31 (Fengshi)
- GB34 (Yanglingquan)
- ST36 (Zusanli)
- SP6 (Sanyinjiao)
- LV3 (Taichong)

Acupuncture treatments were administered once per day for six consecutive days, each week, for a total of two four weeks. A follow-up interview, three months after the completion of all acupuncture treatments, was used to determine relapse rates.

Standard Acupuncture Group

The frequency of treatment and total duration for the conventional scalp acupuncture group were identical to the zone style scalp acupuncture group. There was no difference in terms of acupuncture techniques, needle types, needle retention time, treatment time, and follow-up data points.

The conventional acupuncture group received scalp acupuncture, but not to the extent of the scalp acupuncture group, which received multi-needle zone style needling. The conventional acupuncture group received the following set of primary acupuncture points:

- Chorea tremor control area
- GV20 (Baihui)
- GV14 (Dazhui)
- GB20 (Fengchi)
- LI4 (Hegu)
- SI8 (Xiaohai)
- LI11 (Quchi)
- LI10 (Shousanli)
- TB5 (Waiguan)

At the choreo tremor control area and Baihui GV20, needles were inserted perpendicularly and twirled slightly. At Dazhui GV14, needles were inserted perpendicularly to achieve a deqi sensation. The reducing technique was applied at Hegu LI4 and Dazhui GV14, while reinforcing-reducing techniques were applied at the remaining acupoints. Needles were retained for 40 minutes.

Results

The total effective rate and tremor scores were recorded after the 30-day treatment regimen and the

relapse rate was recorded 3 months after the intervention via telephone interview. Both groups were assessed a tremor score based on the following outcomes:

- Patients's subjectives
- Objective degree of the tremors
- The tremor levels of specific regions including upper limb, head, jaw, tongue, lower limb
- Glass scale (ability to drink water without spilling)
- Abilities of dressing, eating, buttoning clothing, and using chopsticks
- Drawing circles and straight line test

Based on the scores of the patients before and after the treatment, the total effective rate of the scalp acupuncture treatment group was 96.7% and the conventional acupuncture group was 73.3% ($P < 0.05$). The relapse rate of the scalp acupuncture group was 13.81% and was 45.5% for the conventional acupuncture group ($P < 0.05$). Based on the results, scalp acupuncture is indicated for the treatment of essential tremor.

Early Findings

Earlier research conducted by Liaoning University of Traditional Chinese Medicine researchers demonstrates that the combination of acupuncture therapy and a modified version of Cassia Twig Oyster Shell Decoction (Gui Zhi Long Gu Mu Li Tang) has a total effective rate of 81.25%. The research involved 16 patients in a six week TCM treatment regimen. [6] The Liaoning University researchers inserted needles obliquely along the scalp at the following acupoints:

- Baihui GV20 (Hundred Meetings)
- Sishencong MHN1 (Four Alert Spirit)

Needles were twirled at 160 revolutions per minute for 2 minutes, and were left in place for 20 minutes. In addition, needles were also inserted at the following acupoints using the reinforcing-reducing technique, and were left in place for 20 minutes:

- Fengchi GB20 (Wind Pool)
- Taichong LV3 (Great Rushing)
- Taixi KD3 (Supreme Stream)
- Sanyinjiao SP6 (Three Yin Intersection)

The herbal formula contained the following ingredients:

- 15 g: Gui Zhi
- 50 g each: Long Gu and Mu Li
- 20 g: Chi Shi
- 15 g each: Zhi Shi, Bai Shao, Gou Teng, Dang Gui
- 10 g each: Chuan Xiong, Gancao

A daily decoction of 150 mL was prepared, divided into three portions, and consumed warm over the course of each day (morning, before lunch, and after dinner). The 81.25% total effective rate confirms the effectiveness of acupuncture and herbal medicine for the treatment of essential tremor. The early investigation and the latter investigation demonstrate important continuing acupuncture education studies. Both studies are consistent, finding acupuncture an effective modality for the treatment of essential tremor.

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